

REMARKS

The last Office Action has been carefully considered.

It is noted that Claims 1, 2, 5-8 are rejected under 35 U.S.C. 103(a) over the U.S. patent to Arndt.

Claims 3, 9, 10 and 11 are rejected under 35 U.S.C. 103(a) over the U.S. patent to Arndt over the U.S. patents to Nix, or Stump, or MacEven.

After carefully considering the Examiner's grounds for the rejection of the claims over the art, applicants retained the original claims and added claim 12 which is another independent claim currently on file.

It is respectfully that the method for determining the thickness of material by penetrating the material in accordance with the present invention as defined in claims 1, 11 and 12 clearly and patentably distinguishes the present invention from the prior art applied by the Examiner.

Turning now to the prior art, and in particular to the patent to Arndt, it is respectfully submitted that this reference discloses a method for

determination of layer thicknesses, for example of concrete, as explained in column 9, starting from line 18.

The method disclosed in this reference has nothing to do with a method for determining a thickness of material from at least two transit-time measurements of the measurement signal, for various positions of the high-frequency transmitter and the high-frequency receiver. The device disclosed in the patent to Arndt can move laterally to the surface of the examined material, which however is not sufficient to determine a thickness of the material but provides measurements at different locations of the material to detect objects that are enclosed in medium. The measuring device is moved over the surface to detect inhomogeneities behind the surface.

A determination of a thickness of the material from the measurement of the transit time at two different locations of the transmitter and/or receiver is not disclosed in the patent to Arndt. In accordance with the present invention as defined in the claims a first transit time of the measurement signal penetrating the material is measured, then the transmitter or the receiver is changed in its position, and again a second transit time of the measurement signal penetrating the material is measured. From these two transit times, then a material thickness is determined. A method in which the material thickness is determined from two transit times is not disclosed in the patent to Arndt, and this

reference has no hint, suggestion or motivation for this feature. The method disclosed in the patent to Arndt is based on a completely different measurement principle.

As can be seen for example from Figure 1 of the patent to Arndt, for any location a measurement signal 14 is radiated into the medium and in this position is reflected and received by the receiver. In this way it is possible in principle to determine layer thicknesses due to the reflections of the radiated signals on both surfaces of the layer. A determination of the material thickness from the measurement of the transit time at two different locations of the transmitter and/or receiver is not used in the device disclosed in the patent to Arndt. In other words, in the reference there is no method, in which a transit time measurement of the measurement signal is measured at different locations of the high frequency transmitter and/or high frequency receiver to determine the material thickness. The device disclosed in the patent to Arndt determines a material thickness via the measurement of the different frequencies in the same point, in other words in the same location.

Moreover, the method disclosed in the patent to Arndt does not deal with a method including penetration of a material, in which the measurement signal exits the material on a side opposite to the transmitter and is then reflected again.

For these reasons it can not be considered as obvious for a person of ordinary skill in the art who familiarized himself with the teaching of the patent to Arndt to arrive at the applicant's invention as defined in the claims. The patent to Arndt does not disclose either a hand-held device or a determination of the material thickness based on at least two transit-time measurements and moreover it does not disclose any method which includes penetration of the material. These differences are so significant that a person of ordinary skill in the art would not use the teaching of the patent to Arndt to arrive at the applicant's invention. The Examiner's arguments about the obviousness of the present invention from the teaching of the reference can be only equated with a not permissible hindsight consideration.

The patent to Arndt does not have any hint, suggestion, or motivation to modify its teaching at all. In order to arrive at the applicant's invention the reference has to be fundamentally modified and in particular by completely changing the method disclosed in the patent to Arndt and including into the new features of the present invention as defined in the independent claims, or more particularly replacing the principles of the method disclosed in the patent to Arndt with the method of the present invention. However, it is known that in order to arrive at a claimed invention, by modifying the references cited art must itself contain a suggestion for such a modification.

This principle has been consistently upheld by the U.S. Court of Customs and Patent Appeals which, for example, held in its decision in *re Randol and Redford* (165 USPQ 586) that

Prior patents are references only for what they clearly disclose or suggest; it is not a proper use of a patent as a reference to modify its structure to one which prior art references do not suggest.

It is therefore believed that claim 1, the broadest claim on file, should be considered as patentably distinguishing over the art and should be allowed.

Claim 11, the second independent claim on file, defines, in addition to the above mentioned new features of the present invention, that the high frequency transmitter and the high frequency receiver are operated on a first surface of the material, and the measurement signal from the high frequency transmitter is reflected back to the high frequency receiver located on a second surface of the material.

In connection with the Examiner's arguments with respect to claim 2 that the object 18 is a reflector means, it is respectfully submitted that this is incorrect. The object 18 is enclosed in the medium or the layer and is not located on the second surface of the layer. During the reflection of the transmission

signal on the enclosed object 11, the measurement signal does not penetrate the material under investigation, since the object is located inside the layer.

Claim 12 should also be considered as patentably distinguishing over the art and should also be allowed.

Claim 11 which is a third independent claim on file, in addition to other features define that the reflection means is a transponder as defined in claim 3, arranged on the second surface 16 of the material, as explained in the specification.

The features of claim 11 are also not disclosed in the reference. Therefore, this claim should also be considered as patentably distinguishing over the art and should be allowed.

As for the dependent claims, these claims depend on claim 1, they share the allowable features, and they should be allowed as well.

Reconsideration and allowance of the present application is most respectfully requested.

Should the Examiner require or consider it advisable that the specification, claims and/or drawings be further amended or corrected in formal respects in order to place this case in condition for final allowance, then it is respectfully requested that such amendments or corrections be carried out by Examiner's Amendment, and the case be passed to issue. Alternatively, should the Examiner feel that a personal discussion might be helpful in advancing this case to allowance; he is invited to telephone the undersigned (at 631-549-4700).

Respectfully submitted,

A handwritten signature in black ink, appearing to read 'M. J. Striker', with a long horizontal flourish extending to the right.

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